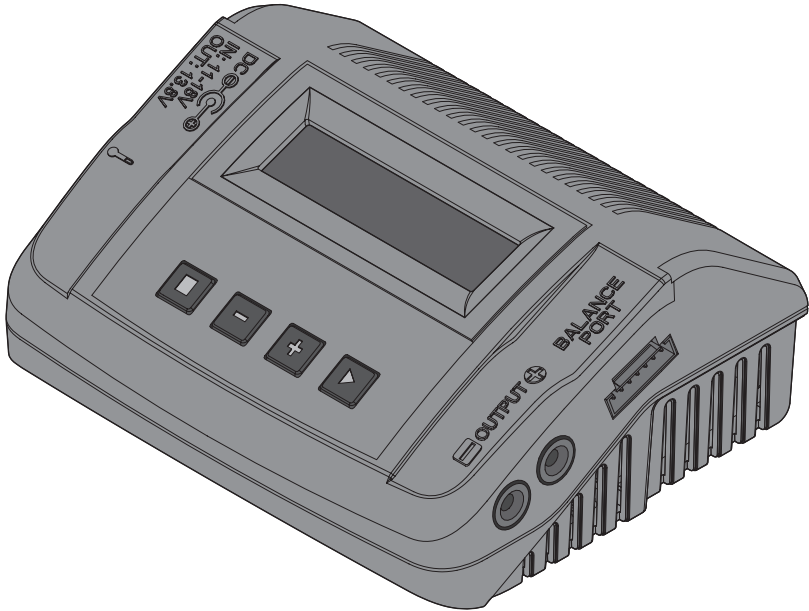


ONYX[®] KX80



80W AC/DC Multi-Chemistry Charger

ONXC4101

HORIZON[®]
H O B B Y

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit horizonhobby.com or towerhobbies.com and click on the support or resources tab for this product.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.



WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating.

Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

NOTICE: This appliance is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



DANGER: To reduce the risk of fire or electric shock, carefully follow these instructions.

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CHARGING WARNINGS



WARNING: Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

• **NEVER LEAVE CHARGING BATTERIES UNATTENDED.**

• **NEVER CHARGE BATTERIES OVERNIGHT.**

- Never attempt to charge non-rechargeable batteries.
- Never leave the power supply, charger and battery unattended during use.
- Never attempt to charge dead, damaged or wet battery packs.
- Never attempt to charge a battery pack containing different types of batteries.
- Never allow children under 14 years of age to charge battery packs.
- Never charge batteries in extremely hot or cold places or place in direct sunlight.
- Never charge a battery if the cable has been pinched or shorted.
- Never connect the charger if the power cable has been pinched or shorted.
- Never attempt to dismantle the charger or use a damaged charger.
- Never drop charger or batteries.
- Never place the charger or battery on a car seat, carpet or similar.
- Never attempt to charge a battery that is already fully charged or just slightly discharged.
- Never attempt to charge batteries that require a different charge technique from NiCd, NiMH, LiPo or Gel cell (Pb, Lead acid).
- Never attempt to charge a battery fitted with an integral charge circuit or a protection circuit.
- Never attempt to charge batteries installed in a device or which are electrically linked to other components.
- Never attempt to charge batteries that are not expressly stated by the manufacturer to be suitable for the currents the charger delivers during the charge process.
- Always place the charger and the battery on a heat-resistant, inflammable and nonconductive surface.
- Always keep all the inflammable volatile materials away from operating area.

- Always keep the charger well away from dust, damp, rain, heat, direct sunshine and vibration.
- Always use only rechargeable Li-Po batteries designed for use with this type of charger.
- Always inspect the battery before charging.
- Always keep the battery away from any material that could be affected by heat.
- Always monitor the charging area and have a fire extinguisher available at all times.
- Always end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.
- Always connect the charge cable to the charger first, then connect the battery to avoid short circuit between the charge leads. Reverse the sequence when disconnecting.
- Always connect the positive red leads (+) and negative black leads (-) correctly.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always charge in a well-ventilated area.
- Always terminate all processes and contact Horizon Hobby if the product malfunctions.
- Always supervise children and ensure they DO NOT play with or attempt to use this appliance.



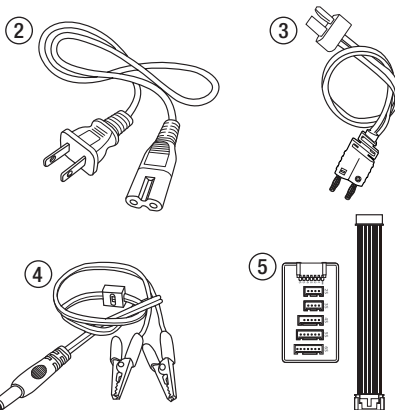
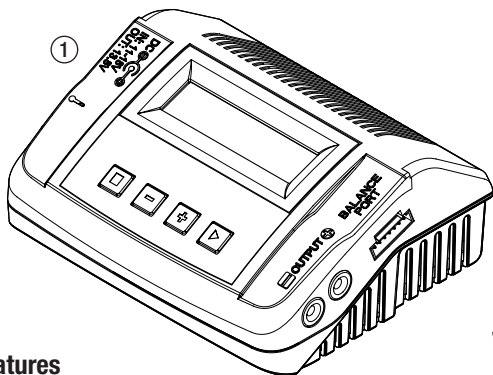
WARNING: Never leave charger unattended, exceed maximum charge rate, charge with non-approved batteries or charge batteries in the wrong mode. Failure to comply may result in excessive heat, fire and serious injury.



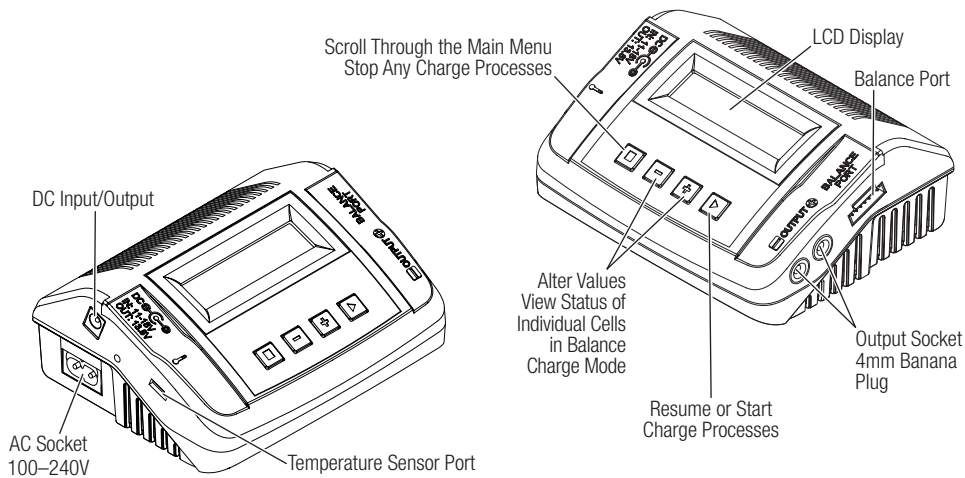
CAUTION: Always ensure the battery you are charging meets the specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage. Please contact Horizon Hobby or an authorized retailer with compatibility questions.

Box Contents

1. Onyx® KX80 Multi-Chemistry Charger
2. AC Power Cord
3. Charging Cable, Banana to Deans
4. DC Cable with Alligator Clip Connector
5. Balance adaptor, JST-XH



Features



Specifications

ONXC4101									
Net Weight	390g								
Dimensions (L × W × H)	135 × 110 × 60mm								
AC Power Input Voltage	100–240V								
Display Type	2 × 16 LCD, Blue backlight								
External Port	1 GS Balance Socket-XH, Temperature Probe Socket, Battery Socket, DC Input/Output								
Delta Peak Detection: NiMH/NiCd	3–15mV/cell / Default: 4mV/cell								
Battery Cutoff Temperature	20°C/68°F–80°C/176°F (adjustable)								
Charge Voltage	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">NiMH/NiCd: Delta peak detection</td> <td style="width: 50%;">LiPo: 4.18–4.20V/cell</td> </tr> <tr> <td>LiHV: 4.20–4.35V/cell</td> <td>LiFe: 3.58–3.6V/cell</td> </tr> <tr> <td>Lilon: 4.08–4.1V/cell</td> <td>Pb Normal: 2.4V/cell</td> </tr> <tr> <td>Pb AGM: 2.45V/cell</td> <td>Pb Cold: 2.45V/cell</td> </tr> </table>	NiMH/NiCd: Delta peak detection	LiPo: 4.18–4.20V/cell	LiHV: 4.20–4.35V/cell	LiFe: 3.58–3.6V/cell	Lilon: 4.08–4.1V/cell	Pb Normal: 2.4V/cell	Pb AGM: 2.45V/cell	Pb Cold: 2.45V/cell
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Pb AGM: 2.45V/cell	Pb Cold: 2.45V/cell								
Balance Current	300mA/cell								
Reading Voltage Range	0.1–26.1V/cell								
Battery Types/Cells	NiMH/NiCd: 1–15 cells, LiPo/LiHV/LiFe/Lilon: 1–6 cells, Pb: 2–20V								
Battery Capacity Range	NiMH/NiCd: 100–50000mAh, LiPo/LiHV/LiFe/Lilon: 100–50000mAh, Pb: 100–50000mAh								
Charge Current	0.1A–8.0A								
Safety Timer	1–120 minutes / OFF								
Charge Wattage	80W								
Discharge Current	0.1A–2.0A								
Discharge Cut-off Voltage	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">NiMH/NiCd: 0.1–1.1V/cell</td> <td style="width: 50%;">LiPo: 3.0–3.3V/cell</td> </tr> <tr> <td>LiHV: 3.1–3.4V/Cell</td> <td>LiFe: 2.6–2.9V/cell</td> </tr> <tr> <td>Lilon: 2.9–3.2V/cell</td> <td>Pb: 1.8–2.0V/cell</td> </tr> </table>	NiMH/NiCd: 0.1–1.1V/cell	LiPo: 3.0–3.3V/cell	LiHV: 3.1–3.4V/Cell	LiFe: 2.6–2.9V/cell	Lilon: 2.9–3.2V/cell	Pb: 1.8–2.0V/cell		
NiMH/NiCd: 0.1–1.1V/cell	LiPo: 3.0–3.3V/cell								
LiHV: 3.1–3.4V/Cell	LiFe: 2.6–2.9V/cell								
Lilon: 2.9–3.2V/cell	Pb: 1.8–2.0V/cell								
Discharge Wattage	10W								
Balance Cells	2–6 cells								
Memory	10 different charge/discharge profiles								
Charge Method	NiMH/NiCd: Delta-Peak Sensitivity, LiPo/LiHV/LiFe/Lilon/PB: CC/CV								

Special Features

DC Power Supply

The Onyx® KX80 is integrated with a DC power supply function with a 13.8V output and 10W–80W power range.

AGM Charge and Cold Charge

For Pb batteries, there are two charging modes: AGM charge and cold charge.

Optimized Operating Software

The Onyx KX80 features an AUTO function that automatically sets the current during charging/discharging. When charging lithium batteries, this may prevent overcharging. If the charger detects a malfunction, it will disconnect the circuit automatically and sound an alarm. You can configure the settings accordingly.

Battery Memory (Data Store/Load)

Store up to 10 different charge/discharge profiles for each channel. You can keep the data pertaining to program setting of the battery of continuous charging or discharging. Users can call out these data at any time without any special program setting.

Terminal Voltage Control (TVC)

TVC is the maximum voltage that a cell within a pack will charge to. Users cannot charge above the maximum voltage; however, users can charge to a lower terminal voltage, which will not fully charge a battery.

Internal Independent Lithium Battery Balancer

The Onyx KX80 features an individual cell voltage balancer, rendering an external balancer for balance charging unnecessary.

Balancing Individual Cells Battery During Discharging

During the process of discharging, the Onyx KX80 can monitor and balance each cell of the battery individually. An error message appears and the process automatically stops if the voltage of a single cell is abnormal.

- See the status of individual Lithium cells (works with any charge, discharge and storage mode)
- Capacity percentage
- Final voltage when the program ends
- Input voltage
- Safety timer and duration of time in minutes
- Cutoff temperature

- Internal and external temperature (Connect temperature probe to display external temperature.)
- Capacity cut-off and value of the set capacity limit

Fast Charge and Storage Mode of Lithium Battery

Fast charge mode shortens the overall charge time required for lithium batteries with a slight reduction in overall capacity. Storage mode is used for charging or discharging lithium batteries not used for an extended period.

Re-Peak Mode of NiMH/NiCd Battery

In re-peak charge mode, the charger can peak charge the battery one, two, or three times in a row automatically.

Delta-Peak Sensitivity for NiMH/NiCd Battery

When the battery's voltage exceeds the threshold, the process automatically terminates.

Cyclic Charging/Discharging

A series of 1 to 5 charge to discharge (>) or discharge to charge cycles can be used for refreshing older batteries and improving cell balance.

Automatic Charging Current Limit

Allows you to set the upper limit of the charging current when charging your NiMH or NiCd battery.

Battery Meter

Allows you to check battery voltage and internal resistance.

Battery Internal Resistance Meter

Allows you to check the battery's total internal resistance as well as each cell's internal resistance.

Capacity Limit

The charging capacity is always calculated as the charging current multiplied by time. If the charging capacity exceeds the limit, the process automatically terminates when the maximum value is reached.

Temperature Threshold

The battery's internal chemical reaction causes the battery temperature to rise. The process terminates if the temperature limit is reached. This function is only available when connecting the optional temperature probe (DYN5033).

Processing Time Limit

Allows you to limit the maximum process time to avoid overcharging the battery.

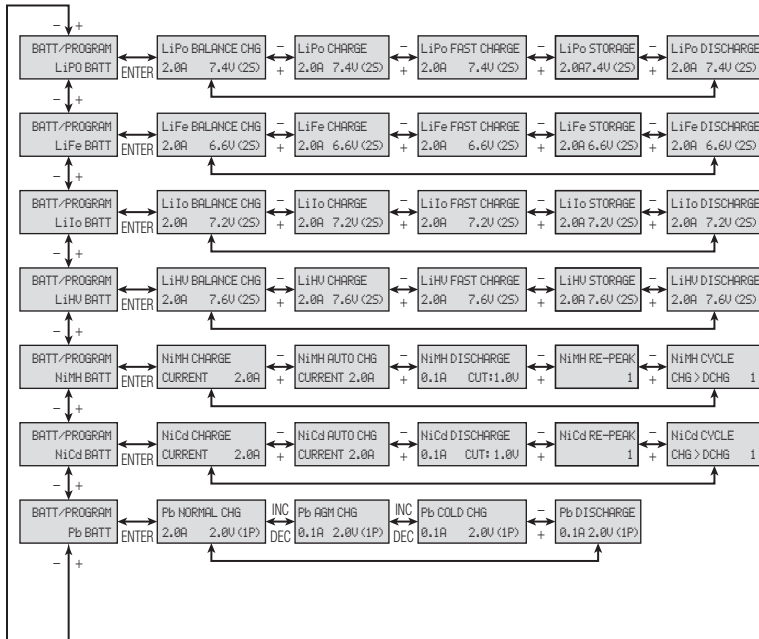
Standard Battery Parameters

	LiPo	Lilon	LiFe	LiHV	NiCd	NiMH	Pb
Nominal Voltage	3.7V/cell	3.6V/cell	3.3V/cell	3.7V/cell	1.2V/cell	1.2V/cell	2.0V/cell
Max Charge Voltage	4.2V/cell	4.1V/cell	3.6V/cell	4.35V/cell	1.5V/cell	1.5V/cell	2.46V/cell
Storage Voltage	3.8V/cell	3.7V/cell	3.3V/cell	3.85V/cell	N/A	N/A	N/A
Allowable Fast Charge	≤1C	≤1C	≤4C	≤1C	1C–2C	1C–2C	≤0.4C
Min. Discharge Voltage	3.0–3.3 V/cell	2.9–3.2 V/cell	2.6–2.9 V/cell	3.1–3.4 V/cell	0.1–1.1 V/cell	0.1–1.1 V/cell	1.8V/cell



WARNING: Always ensure you are inputting the correct voltage for your battery type. Incorrect settings may result in fire, causing personal injury or damage to property.

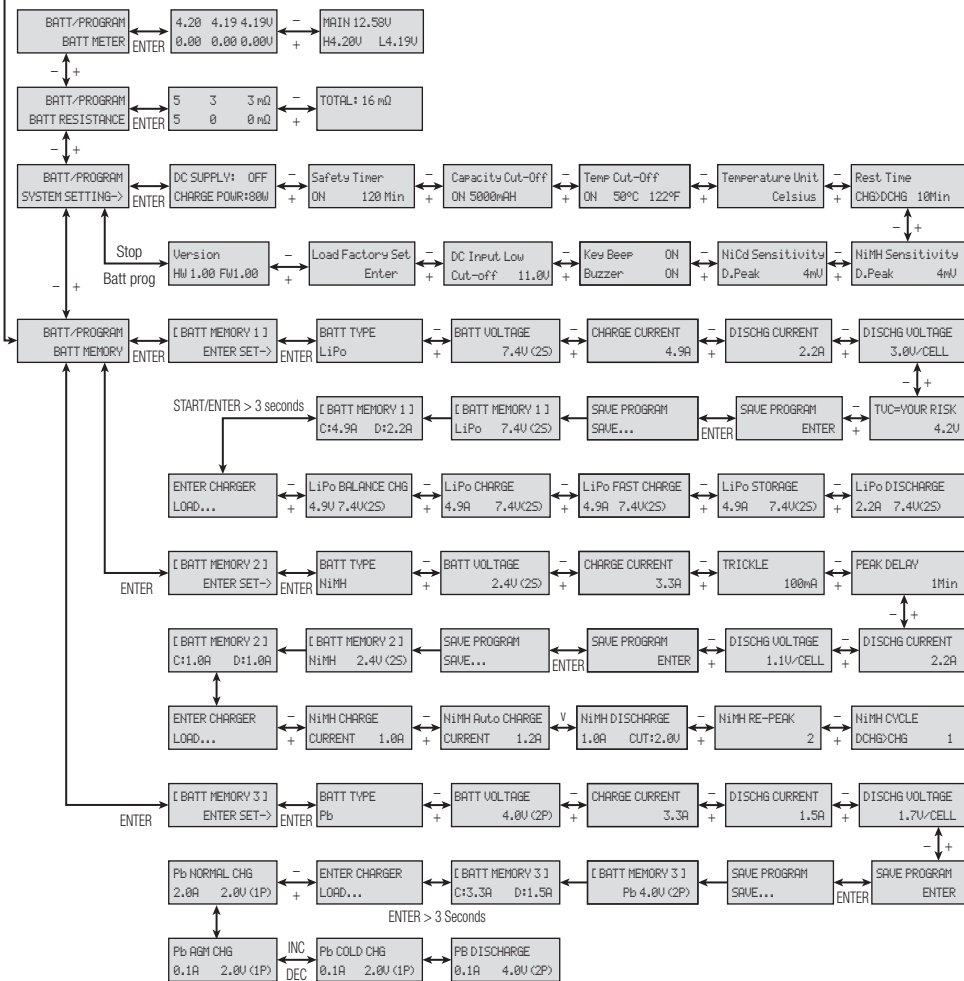
Program Flow Chart



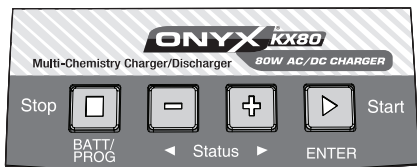
Continued on page 8

Program Flow Chart

Continued from page 7



Operation



BATT PROG/STOP Button

Press to stop the current process or revert to previous step/screen.

DEC – Button

Press to cycle through the menus and decrease the parameter value.

INC + Button

Press to cycle through the menus and increase the parameter value.

ENTER/START Button

Press to enter the parameter or store the current parameter.

To change the parameter value, press the START/ENTER button once. The parameter will blink. Change the value by pressing the DEC or INC button. Store the value by pressing the START/ENTER button again. If there is another adjustable parameter available, it will blink. Change the value by pressing DEC or INC button. Store the value by pressing the START/Enter button again. Once the blinking stops, the charging process is ready to initiate.

To start charging, press and hold the START/ENTER button for 3 seconds. To stop charging or to go back to a previous step/screen, press the BATT PROG/STOP button once.

The charger defaults to the most used battery type program. Press the DEC or INC button to change the program mode from Normal, Fast Charge, Storage, or Discharge. Once finished, press the BATT PROG/STOP button to enter the BATT PROGRAM screen.

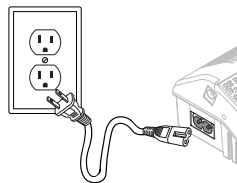
Program Operation

1. Connection

Connecting to a power source

There are two kinds of power inputs for the Onyx KX80, DC 11-18V and AC 100-240V.

Choose one or the other and connect as shown.



WARNING: Never connect AC and DC power to the charger at the same time.

Connecting the battery



WARNING: Before connecting the battery, verify the parameters are set correctly. Incorrect settings may result in fire, causing personal injury or damage to property.

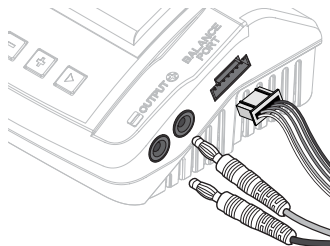
To avoid short circuit, always connect the charge leads to the charger first, then connect them to the battery. Reverse the sequence when disconnecting the pack.

Using balance charge mode

Balance lead connection is required for operation in all Lithium modes except 1S batteries.



WARNING: Failure to connect the battery and charger properly may result in damage to the charger. To avoid short circuit, plug the charger into the power supply before connecting a battery to the charger.



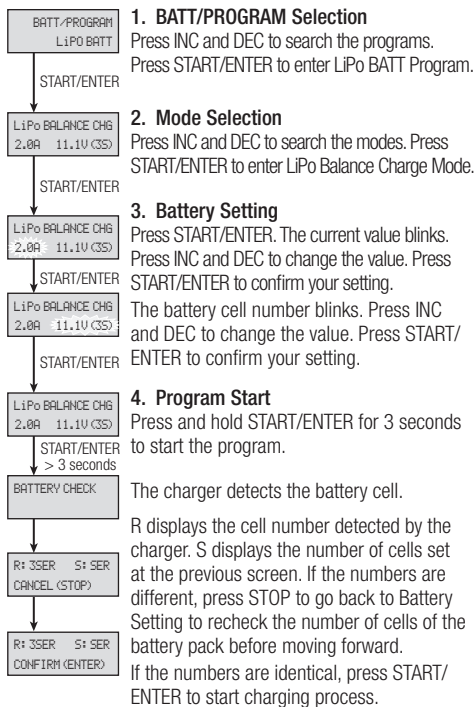
2. Getting Started

The flowcharts show the entire programming menu. Use these flowcharts while learning to operate this charger.

There are two main ways to set the charger.

- A memory profile is available for setting and storing pertinent information for up to 10 different batteries. Once battery information is stored into memory, it is retained until it is manually changed. Recalling a battery's memory number makes the charger instantly ready to go!
- If you do not wish to use the battery memory, manually set the charger before each use.

To manually set:

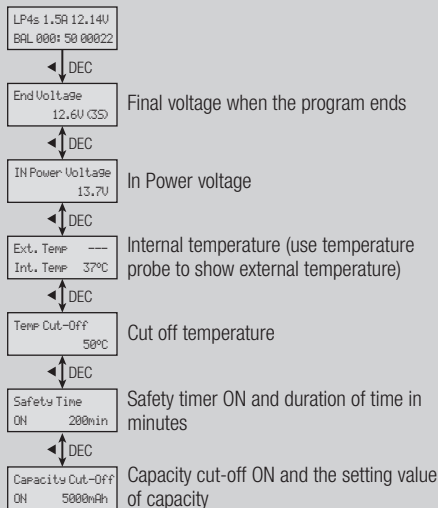
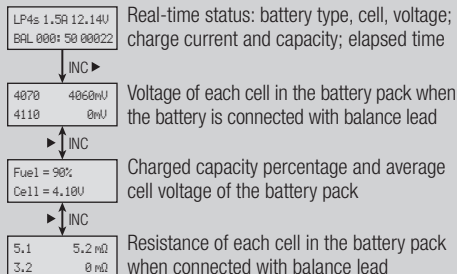


5. Charging Status Monitor

During charging process, real-time status displays (see image, left).

Important Information

Press INC or DEC during the charging or discharging process to see information on the LCD screen.



6. Program Stop


During the charging process, press STOP to stop the charging process.

7. Program Complete

When charging is complete, a tone sounds.

Charging Program

Operation programs are different, based on battery type. Follow the chart below.

Battery Type	Operation Program	Description
LiPo LiHV Lilon LiFe	CHARGE	This mode is for charging a LiPo/LiHV/LiFe/Lilon battery in normal mode.
	DISCHARGE	This mode is for discharging a LiPo/LiHV/LiFe/Lilon battery.
	STORAGE	For charging or discharging a lithium battery to storage-level voltage when the battery may not be used again for an extended period of time.
	FAST CHG	The charging capacity might be less than normal and the process time will be reduced.
	BAL CHARGE	This mode is for balancing the voltage of lithium-polymer battery cells while charging.
NiMH NiCd	CHARGE	The charger will charge NiMH and NiCd batteries using the charge current set by the user.
	AUTO CHG	The charger detects the condition of the battery connected to the output and automatically charges the battery.  CAUTION: Never set the max charge current higher than 1C.
	DISCHARGE	This mode is for discharging NiMH/NiCd battery.
	RE-PEAK	In re-peak charge mode, the charger can peak charge the battery once, twice or three times in a row automatically. This is good for confirming the battery is fully charged, and for checking how well the battery receives fast charges.
	CYCLE	1 to 5 cyclic and continuous process of charge to discharge or discharge to charge is for battery refreshing and balancing to stimulate the battery's activity.
Pb	NORMAL CHG	This mode is for charging a Pb battery.
	AGM CHG	This mode is for charging an AGM battery.
	COLD CHG	This mode is for charging a Pb battery on days when the temperature is 5°C to -20°C.
	DISCHARGE	This mode is for discharging a Pb battery.

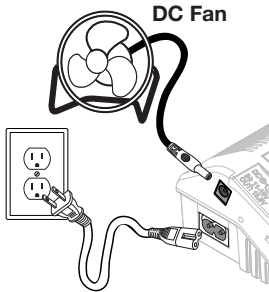
DC Power Supply

To use the Onyx KX80 as a power supply, connect it to an AC power source. When the left side green LED lights, the power supply is ready. The DC output power is adjustable from 10W to 80W. The output voltage is 13.8V. The power of DC output is shared with the charger power. When you increase the power of DC output, the charger power decreases accordingly.

(DC Power + Charger Power = 80 Watts).



CAUTION: The maximum DC Power output is 80W. Please check your device before you allocate the power.



EXPLANATION OF LED STATUS

EXPLANATION OF LED STATUS	
OFF	DC Power Off
Green	0–50% Loading
Yellow	51–75% Loading
Red	76–100% Loading
Red Blinking	Over Load

BATT./PROGRAM
SYSTEM SETTING→

ENTER

DC SUPPLY: OFF
CHARGE POWER: 80W

ENTER

DC SUPPLY: 25W
CHARGE POWER: 35W

Press the ENTER to enter the DC Power Supply program.

Select the power of DC output.

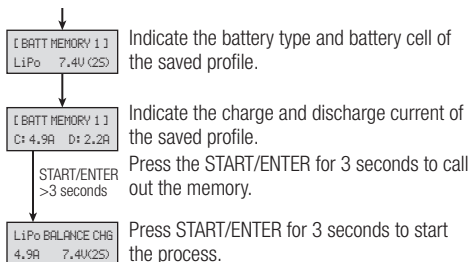
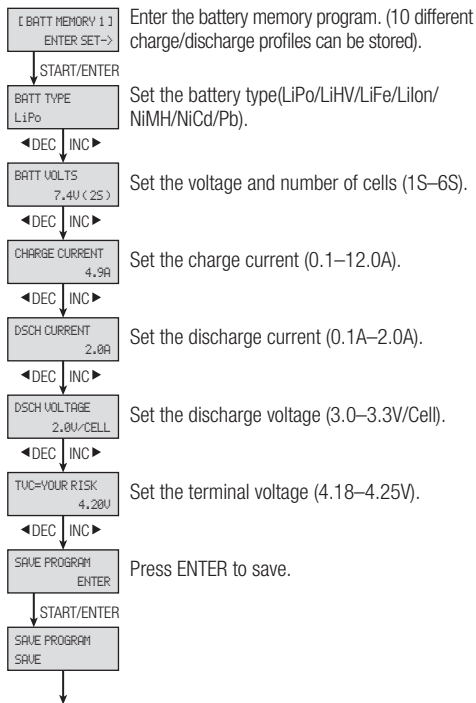
Press ENTER, the power value will blink, click +/- to allocate the power.

Battery Memory Settings and Usage

The charger can store up to 10 different charge/discharge profiles for your convenience. The stored profiles can be recalled quickly without having to navigate the setup process. To alter the parameter value in the program, press START/ENTER. When it begins to blink, change the value with INC or DEC. Press START/ENTER once to store the value.

IMPORTANT: The following screens use a 2S (7.4V) LiPo battery as an example.

1. Battery Memory Set



System Setting

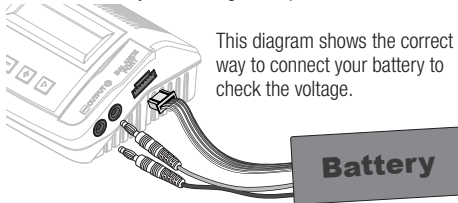
The System Setting Screen displays the following information in sequence. These values can be changed by the user. To change parameter values, press the START/ENTER button to make the value blink, then use the INC or DEC buttons to increase or decrease the values. Store the values by pressing START/ENTER again.

Item	Selection	Description
Safety Timer ON 120Min	OFF/ON (1-720 Min)	When you start a charge process, the integral safety timer automatically starts. This prevents overcharging if a battery is faulty, or if the termination circuit cannot detect a full charge. The value for the safety timer should allow a full charge of the battery.
Capacity Cut-Off ON 5000mAh	OFF/ON (100-50000 mAh)	This program sets the maximum charge capacity that will be supplied to the battery during charge. If the delta peak voltage is not detected or the safety timer expires for any reason, this feature will automatically stop the process at the selected capacity value.
Temp Cut-Off On 50 C 122 F	OFF/ON (20 C/68 F – 80 C/176 F)	The battery's internal chemical reaction will cause the temperature of the battery to rise. If the temperature limit is reached, the process will be terminated.
Temperature Unit Celsius	Celsius Fahrenheit	You can choose the temperature displayed as Celsius or Fahrenheit.
Rest Time CHG/DCHG 10Min	1-60Min	A rest time allows the battery to cool down between charging/discharging cycles.
NiMH Sensitivity D.Peak Default	Default: 4mV/Cell 3-15mV/Cell	This program is for NiMH/NiCd battery only. When the charger detects the delta peak value you set, the charger will say the battery is fully charged. A higher setting may be required in order to fully charge aged or under used batteries.
NiCd Sensitivity D.Peak Default		
Key Beep ON Buzzer ON	OFF/ON	The key beep sounds when the buttons are pushed to confirm your action. A beep or buzzer sounds at various times during operation to alert different mode changes.
Load Factory Set Enter		Press ENTER to reset to the factory default settings.
Version HW: 1.00 FW: 1.10		It indicates the hardware and firmware version.

Battery Meter

The battery meter can check the battery's total voltage, the highest and lowest voltage, and each cell's voltage.

Connect the battery's balance wire to the meter's balance socket. Connect the battery to the charger's output connector.



BATT PROGRAM
BATT METER

Press START/ENTER to enter the Lithium Battery Meter program.

START/ENTER

4.20 4.19 4.19 U
4.18 0.00 0.00 U

The screen indicates each cell's voltage.

INC ▶

MAIN 16.76V
H4.200V L4.182V

The screen indicates the highest, lowest, and total voltage.

Battery Resistance Meter

The user can check battery's (1) total resistance, (2) highest resistance, (3) lowest resistance, and (4) each cell's resistance. Connect the battery's balance wire attached to the meter's balance socket. Connect the battery to the charger's output connector.

BATT PROGRAM
BATT RESISTANCE

Press START/ENTER to enter the Lithium Battery Resistance program.

START/ENTER

012 005 005 mΩ
006

The screen indicates each cell's resistance.

INC ▶

TOTAL: 28mΩ
H: 12mΩ L: 5mΩ

The screen indicates the total, highest, and lowest resistance.

Warning and Error Messages

BALANCE WIRES NOT CONNECTED	The balance lead from the battery is not connected to the charger, or it is faulty.
REVERSE POLARITY	Incorrect polarity connected.
CONNECTION BREAK	The current process has been interrupted. Check all connections.
CONNECT ERROR CHECK MAIN PORT	The battery connection is wrong or faulty.
BALANCE CONNECT ERROR	The balance connection is wrong or faulty.
DC IN TOO LOW	Input voltage is less than 11V.
DC IN TOO HIGH	Input voltage is greater than 18V.
CELL ERROR LOW VOLTAGE	The voltage of 1 cell in the battery pack is too low.
CELL ERROR HIGH VOLTAGE	The voltage of 1 cell in the battery pack is too high.
CELL ERROR VOLTAGE=INVALID	The voltage of 1 cell in the battery pack is out of normal range for the chemistry selected.
CELL NUMBER INCORRECT	The cell number is wrong.
INT. TEMP. TOO HI	The internal battery temperature is too high.
EXT. TEMP. TOO HI	The external battery temperature is too high.
OVER CHARGE CAPACITY LIMIT	The battery capacity has reached a mAh that exceeds the set maximum capacity.
OVER THE LIMIT	The charging time has reached the maximum set charging time.
BATTERY WAS FULL	The battery voltage is higher than the set maximum voltage when charging in balance mode.
NO POWER DISTRIBUTED	No power is allocated to the charger.

1-Year Limited Warranty

What this Warranty Covers - Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship for a period of 1 year from the date of purchase.

What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS

BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available

at http://www.horizonhobby.com/content/service-center_render-service-center. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

NOTICE: Do not ship LiPo batteries to Horizon. If you have any issue with a LiPo battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements

For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service

Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service.

Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website http://www.horizonhobby.com/content/service-center_render-service-center.

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/2015

Warranty and Service Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	2904 Research Rd. Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	



Supplier's Declaration of Conformity
80W AC/DC Charger
ONXC4101

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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